

1.3 EXCHANGING DATA · 1.3.3

The Internet: TCP/IP, DNS & packet switching

Original practice questions · 32 marks · about 45 minutes · spec 1.3.3(b)

Instructions. Answer all questions. The number of marks is shown in brackets []. Quality of written communication is assessed in the extended-response question.

1 Total: 6 marks

The internet uses the TCP/IP protocol stack.

(a) Name the **four** layers of the TCP/IP stack. [4]

.....

(b) State the job of the *internet* layer. [1]

.....

(c) Name one protocol that operates at the application layer. [1]

.....

2 Total: 5 marks

A user types a website address into their browser.

(a) State what DNS stands for. [1]

.....

(b) Describe the role DNS plays when the user visits the website. [2]

.....

(c) Explain why DNS is useful to users. [2]

.....

3 Total: 5 marks

This question is about protocol layering.

(a) Explain what is meant by protocol layering. [2]

.....

(b) Explain **two** benefits of using protocol layering. [3]

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- (a)** Describe how packet switching is used to send a message across the internet. **[3]**

- (b)** State what happens to a packet that is lost in transit. **[1]**

A video-call app sends data over the internet between two users. The developers are deciding how the data should travel and want it to be reliable.

[12]

END OF QUESTIONS